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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,052	09/25/2001	Michael J. Payne	42390P11780	2670

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EXAMINER	
SKED, MATTHEW J	

ART UNIT	PAPER NUMBER
2655	

DATE MAILED: 05/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/965,052	PAYNE ET AL.	
	Examiner	Art Unit	
	Matthew J Sked	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-12,15-17,26-29,32-34 and 48-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-12,15-17,26-29,32-34 and 48-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 February 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *02/09/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. The objection to the drawings is withdrawn in view of the amendments.

2. The objection to the specification is withdrawn in view of the amendments.

3. Claims 1-8, 13-14, 18-25, 30-31 and 35-47 are canceled.

4. Claims 9-12, 15-17, 26-29 and 32-34 are still pending in the application

5. Claims 48-50 are new.

6. In response to applicant's argument, regarding claims 9 and 26, that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or **in the knowledge generally available to one of ordinary skill in the art**. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Padmanabhan teaches a method of forming a textual corpus from a user's speech which includes identifying a speech signal, generating a set of phonemes from that speech signal, rating and combining the accuracy of the phonemes as individual words and as part of larger words and selecting the word with the best score. Padmanabhan does not specifically teach that identifying the audio signal involves identifying two anchor points wherein the audio signal is the segment between the two anchor points. However, the Examiner asserts that using periods of silence to identify where speech segments begin and end (anchor points) is notoriously well known in the

art. Haddock is simply relied upon to illustrate this assertion. The Examiner is not combining the ideas of solving acoustic confusion and organized recorded speech as asserted by the applicant, but rather combining the system of Padmanabhan with the well known method of using anchor points to define where a speech segments begin and end. The rejection still stands.

7. Applicant's arguments, regarding claims 15-17 and 32-34, fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. The applicant simply asserts that the rejection to the claims is traversed, however, the applicant does not state why this assertion is being made. The rejection still stands.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 48 and 49 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims specify biasing at least one anchor point using a constraint filter or a set of patients and a set of prescribed drugs. However, the specification does not

teach biasing the anchor points but instead teaches biasing speech recognition, which would not involve anchor points because anchor points would be found prior to recognition. For the purpose of examination it will be assumed the constraint filter and the set of patients and a set of prescribed drugs bias speech recognition as disclosed in the specification.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 9-12, 26-29 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Padmanabhan et al. (U.S. Pat. 6,385,579) in view of Haddock (U.S. Pat. 5,983,187) and taken in further view of Stanford.

As per claims 9 and 26, Padmanabhan teaches a method and computer readable medium containing executable computer program instructions for translating speech signal into text comprising:

identifying and extracting a segment of the audio signal (partitions the signal into frames, col. 5, lines 20-23);

generating sets of phonemes that correspond to the segment of the audio signal (hypothesizes a sequence of words, col. 5, lines 38-40);

rating the sets of phonemes for accuracy as an individual word and as a part of a larger word (average phone recognition probability of the compound word and individual words, col. 9, lines 2-6);

combining accuracy ratings from said rating (acoustic measure represents the difference between the two average phone recognition probabilities, col. 9, lines 2-6); and

selecting the word or part of the word corresponding to the segment of the audio signal (hypothesis with best score is outputted as the recognized sequence, col. 5, lines 40-42).

Padmanabhan does not teach ranking the sets of phonemes according to said rating.

However, the Examiner takes Official Notice that ranking a set of possible word scores is common in the art and it would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Padmanabhan to rank the sets of phonemes according to the rating because it would give the user a ordered look at potential words based upon their score hence facilitating a choice.

Padmanabhan does not teach identifying at least two anchor points in the audio signal wherein the segment of the audio signal is contained between the at least two anchor points.

Haddock teaches a system for keyword recognition that identifies anchor points through silence detection to identify the sections of speech (col. 3, lines 54-59).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Padmanabhan to identify and use anchor points in the audio signal to obtain the speech segments for recognition as taught by Haddock because this enables recognition of keywords or phrases of interest.

Neither Padmanabhan nor Haddock teach generating sets of phonemes using a subset of a language vocabulary.

Stanford teaches partitioning the language vocabulary into subsets (user chooses the type of movie to access that subset of the vocabulary, col. 6, lines 40-43).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Padmanabhan and Haddock to generate phonemes using a subset of a language vocabulary as taught by Stanford because it would give a more concentrated vocabulary and therefore speeding up searching time.

12. As per claims 10 and 27, neither Padmanabhan nor Haddock teach the subset of the language vocabulary is separated into a plurality of contexts and said generating is performed within a context of the plurality of contexts.

Stanford teaches that the subset of the language vocabulary is separated into a plurality of contexts (recent releases and all-time hits, col. 6, lines 48-50).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Padmanabhan and Haddock to separate the vocabulary subset into a plurality of contexts as taught by Stanford because further limit the amount of terms in the vocabulary hence speeding up searching.

13. As per claim 11 and 28, neither Padmanabhan nor Haddock teach the context is dynamically changed during generating.

Stanford teaches dynamically changing the context (col. 13, lines 21-24).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Padmanabhan and Haddock to dynamically change the context as taught by Stanford because it would give more flexibility by allowing multiple contexts to be used hence allowing better recognition.

14. As per claim 12 and 29, Padmanabhan does not teach identifying a new anchor point, such that said generating is performed on a segment of the audio signal defined with the new anchor point.

Haddock suggests multiple anchor points and sections of speech corresponding to these anchor points, hence any anchor points found after the initial anchor points would be new (col. 3, lines 54-59).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Padmanabhan to identify a new anchor point to determine a new segment to be processed as taught by Haddock because it would allow many segments of speech to be identified and processed hence allowing the user to speak more naturally.

15. As per claim 49, Padmanabhan, Haddock and Stanford do not teach that the constraint filter is at least one of a set of patients and a set of frequently prescribed drugs.

However, the Examiner takes Official Notice that speech recognition with a medicine-related vocabulary is well known. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Stanford, Alshawi and Knittle to teach a medicine-related vocabulary having a constraint filter of at least one of a set of patients and a set of frequently prescribed drugs because it would increase recognition speed and accuracy when used in a physician's office.

16. Claims 15,16, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker et al. (U.S. Pat. 6,434,529).

Regarding claims 15 and 32, Walker suggests a speech translation method and computer readable medium containing executable computer program instructions comprising:

generating a first and second phoneme from an audio signal using a first and second context of a language vocabulary (activates multiple grammars, compares the incoming audio to these grammars, result events are returned and these results may include alternative guesses, col. 12, lines 19-34 and col. 17, lines 19-24); and

selecting a word or part of a word from the first phoneme and the second phoneme that represents a translation of the audio signal (when recognition is completed only one result accepted event is provided hence a selection must be made, col. 12, lines 35-38).

17. As per claims 16 and 33, Walker teaches that real-time speech translation is maintained (col. 14, lines 62-67).

18. Claims 17 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker in view of Stanford.

Walker does not teach that the first context is switched to said second context before said generating the second phoneme.

Stanford teaches dynamically changing the context (col. 13, lines 21-24). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Walker to dynamically change the context as taught by Stanford before generating the second phoneme because it would save memory by allowing only one context in the active memory at a time.

19. Claims 48 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Padmanabhan, Haddock, Stanford and taken in further view of Knittle.

As per claim 48, Padmanabhan, Haddock, and Stanford do not teach that speech recognition is biased using said constraint filter.

Knittle teaches that the recognizer only searches the predetermined portion of the language model hence speech recognition is biased (col. 3, lines 33-36).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Padmanabhan, Haddock, and Stanford so that speech recognition is biased using said constraint filter as taught by Knittle because it would search only the smaller vocabulary hence speeding up recognition and making it more accurate.

20. As per claim 50, Padmanabhan, Haddock, and Stanford do not teach restricting the size of said subset associated with said at least one context.

Knittle teaches a method for limiting the number of words searched by a speech recognition program by using a sub-vocabulary generator that identifies specific words within the vocabulary (col. 3, lines 27-33).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Stanford and Alshawi to restrict the size of the subset as taught by Knittle to at least one of the contexts because it would further limit the amount of searching the speech recognition program would perform hence making the system faster.

Conclusion

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J Sked whose telephone number is (571) 272-7627. The examiner can normally be reached on Mon-Fri (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L Ometz can be reached on (571)272-7593. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MS
5/12/05

DAVID L. OMETZ
PRIMARY EXAMINER